

Construction Advisory

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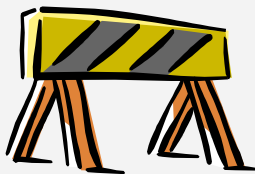
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Construction Advisory
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BJO:EB

Concrete Quality Assurance and Concrete Quality Initiative

This construction advisory will serve as a reminder for the concrete testing requirements by the engineer for non-quality assurance projects, and for the bid items eligible for concrete quality initiative. Concrete quality assurance is always required; the issue is who performs the tests and at what frequency.

Note: Although the contractor may or may not be responsible for quality assurance testing, the contractor is required to perform quality control testing for all concrete according to Section 604 of the *2003 Standard Specifications for Construction*.

For projects without the pay items "Conc Quality Assurance" or "Conc Quality Assurance, Structure", the engineer is required to perform the quality assurance sampling and testing of the concrete according to Section 602.1 Concrete Testing Procedures included in MDOT's *2003 Construction*

Manual. The frequency and the type of tests are included in the table on page 602-1. The engineer is responsible for fabricating the test specimens, transporting them to the MDOT laboratory for curing, and testing them according to ASTM/AASHTO/MTM procedures.

Open to Traffic – For contractor non-quality assurance concrete projects: Pavements - The engineer will test all open to traffic pavement test specimens for strength determination, as specified in Section 601.03 H of the *2003 Standard Specifications of Construction*. Structures - The contractor is required to make cylinders or beams and test these specimens in the presence of the engineer, as specified in Section 701.03.G.3 of the *2003 Standard Specifications of Construction*.

Errata – The Supplemental Specification for

Errata to the 2003 Standard Specifications, 03SS001(2f), Subsections 601.03.G.7.b (Non Concrete QA Projects) and 701.03.G.2 (Non Quality Assurance), states "The Engineer will perform strength testing for acceptance and payment, according to Department procedures, for all concrete not covered by the Department's concrete quality assurance program." This is a change from the *2003 Standard Specifications for Construction*.

Concrete Patch Projects – For concrete patching projects, the open to traffic flexural strength specified in Section 603.03.16 of the *2003 Standard Specifications* is 300 psi. The engineer is responsible for fabricating and testing the beams according to Sections 602.2.19 and 20 of the *Construction Manual*. See Section 603 of the *Construction Manual* for further procedures. Twenty-eight day quality assurance

cylinders and contractor's quality control test cylinders are not required for MDOT grades PMS, PNC, and HE concrete mixes. The engineer may and reserves the right to make twenty-eight day quality assurance cylinders on HE concrete mixes at any time. Quality assurance cylinders and contractor's quality control test cylinders are required for P1 patching mixtures. However, concrete quality initiative will not apply for pavement repair items. Section 605.01 A.2 of the *2003 Standard Specifications for Construction* describes pavement related critical concrete quality assurance items as the concrete pavement items, including shoulders and ramps. The pay items associated with concrete patching include pavement repair items, not concrete pavement items. (For example, "Pavt Repr, Reinf Conc, ____ inch" vs. "Conc Pavt, Reinf ____ inch".)

Bridge Deck Overlay Mixtures

– For silica fume modified concrete and latex modified concrete mixes, the engineer is responsible for quality assurance sampling and testing according to Sections 602-1 and 712 of the *Construction Manual*. The contractor may be required to make beams depending on cold weather limitations, as listed in the subsection 712.03 R of the *2003 Standard Specifications for Construction*. The contractor is still required to perform quality control testing for slump, air content and concrete temperature for these mixtures. However, quality control cylinders are not required from the contractor for these mixtures.

Concrete Quality Initiative for Quality Assurance Projects – Pavements

- The concrete pavement construction pay items of "Conc Pavt, ____" are the only pay items eligible for concrete quality

initiative. For unbonded concrete pavement overlays, concrete quality initiative will be paid for both the furnishing and placing cubic yard bid items, and the finishing and curing by the square yard bid items.

Structures - The structural concrete construction pay items of "Substructure Conc; Superstructure Conc; or Superstructure Conc, Night Casting" are the only pay items eligible for concrete quality initiative.

